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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	
Thomas M. SCHAUB, et al.	Examiner: Carol A. See
Serial No.: 10/743,143	
Filed: December 23, 2003	Art Unit: 3696
For: Enterprise Management Application Providing Availability Control Checks on Revenue Budgets	Confirmation No.: 7478

DECLARATION OF THOMAS SCHAUB, ANDREAS SCHAEFER, AND HORST SCHNOERER

We, Dr. Thomas Schaub, Andreas Schaefer, and Horst Schnoerer, individually and collectively declare as follows:

1.   We are the inventors of the above-referenced patent application currently pending before the United States Patent and Trademark Office. We are informed that the application currently contains claims 6-7, 10-13, 15-19, and 21, with claims 6, 10, and 16 being independent claims, all of which are rejected as anticipated or obvious over SAPR3 (www.sap.com, 2003), which has a publishing date of June, 2003. We understand SAPR3 is being used as prior art under 35 U.S.C. § 102 (a).

2.   We conceived of the subject matter recited in the pending claims of this application prior to June 2003. Evidence of this fact is shown in attached Exhibits A, B and C. Exhibit A is a presentation describing a design of availability control on revenue that was available on November 28, 2002. Exhibit A illustrates a design for the subject matter recited in the pending claims. See for example slide 2 of Exhibit A which discusses the subject matter of the claimed invention. Exhibit B is a screen shot illustrating that the presentation of Exhibit A was available on November 28, 2002. Exhibit C is further evidence of the date of the design. Exhibit C was written in December 12, 2002, and is an invitation to a design meeting for availability controls on revenue.

DC01 731875 v1

3.   A working prototype of the subject matter recited in the pending claims was operational by at least January 16, 2003. The working prototype included the functionality of the present application. Exhibit D is an email dated January 23, 2003, sent from Dr. Thomas Schaub to SAP colleagues Juan Gulias and Gerardo Kobeh. The email includes an email sent on January 16, 2003, in which Dr. Schaub stated he had completed a working prototype. And the email of January 23, 2003, included a document describing the working prototype, "Implementation of Availability Control on Revenues", which is included as Exhibit E. The "Overview of the Implementation" section of Exhibit E illustrates that the subject matter of independent claims 6, 7, 10, and 16 of the pending application is part of the working prototype.

4.   We exercised diligence in the completion of the invention between the dates of conception at least November 28, 2002, and reduction to practice, at least January 16, 2003, as identified above.

I, Dr. Thomas Schaub, declare that all statements made of my own knowledge are true and that all statements made on information and belief are believed to be true and that all statements made herein are made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both (18 U.S.C. § 1001) and may jeopardize the validity of the application or any patent issuing thereon.

Date: _____   _____
                                            Dr. Thomas Schaub

I, Andreas Schaefer, declare that all statements made of my own knowledge are true and that all statements made on information and belief are believed to be true and that all statements made herein are made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both (18 U.S.C. § 1001) and may jeopardize the validity of the application or any patent issuing thereon.

Date: _____   _____
                                            Andreas Schaefer

I, Horst Schnoerer, declare that all statements made of my own knowledge are true and that all statements made on information and belief are believed to be true and that all statements made herein are made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both (18 U.S.C. § 1001) and may jeopardize the validity of the application or any patent issuing thereon.

Date: *September 1st, 2008*   *Horst Schnoerer*
                                 Horst Schnoerer

Exhibit A

THE BEST-RUN E-BUSINESSES RUN SAP

Availability Control on Revenues

Solution for EA-PS 2.0 and JFMIP

Thomas Schaub

Development IBU PS, SAP Labs France

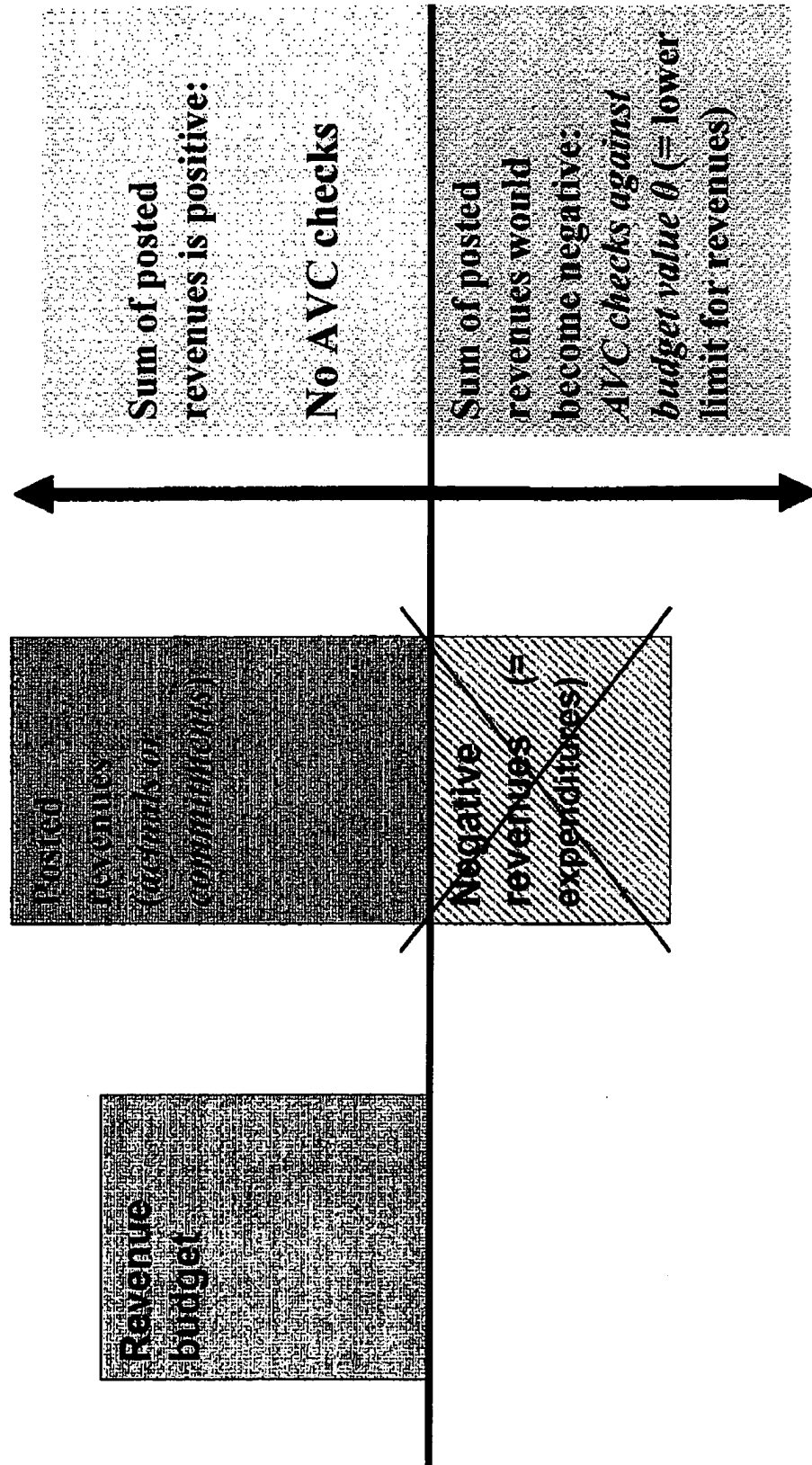## Availability Control on Revenues

AVC on revenues: *current view* (I)

☐ Availability control was designed to limit expenditures, but not to limit revenues → an administration is allowed to receive revenues without any upper limit.

☐ Consequence: For usual revenue scenarios (without negative revenue budget) AVC only prevents the system from posting expenditures on revenue items

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SAP

Availability Control on Revenues

AVC on revenues: *current view* (II)

Sum of posted revenues is positive:

No AVC checks

Sum of posted revenues would become negative: *AVC checks against budget value 0* (= lower limit for revenues)

Posted revenues (*actuals or commitments*)

Negative revenues (= expenditures)

Revenue budget

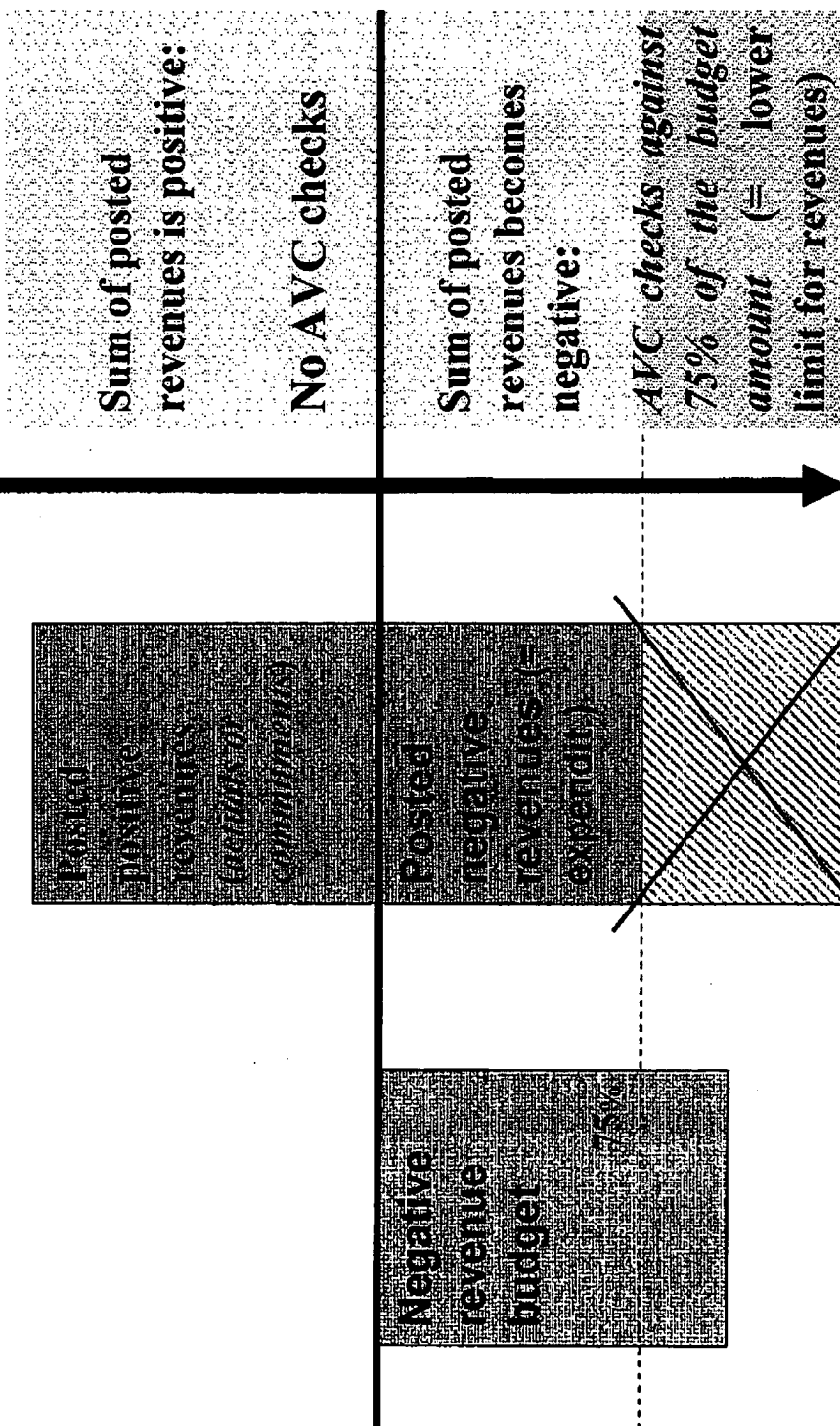**SAP**

THE BEST-RUN BUSINESS

Availability Control on Revenues

AVC on revenues: *current view* (III)

☐ Negative revenue budget with tolerance 75%

Sum of posted revenues is positive:

No AVC checks

Sum of posted revenues becomes negative:

AVC checks against 75% of the budget amount (= lower limit for revenues)

Posted positive revenues (actuals+ commitmts)

Posted negative revenues (= expendit)

Negative revenue budget

75%

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Availability Control on Revenues

AVC on revenues: *enhanced view* (I)

☐ *In addition and similar to limit expenditures, AVC will offer the possibility to limit revenues.*

☐ *Examples:*

☐ Some administration is authorized to accept revenues until a certain upper limit → AVC issues an error, if this limit is exceeded for revenues (e.g. Reimbursable Customer Orders).

☐ Another administration uses rules for Revenue Increasing the Budget (RIB), but likes to be informed, when collected revenues exceed some limit → AVC issues a warning in this case.
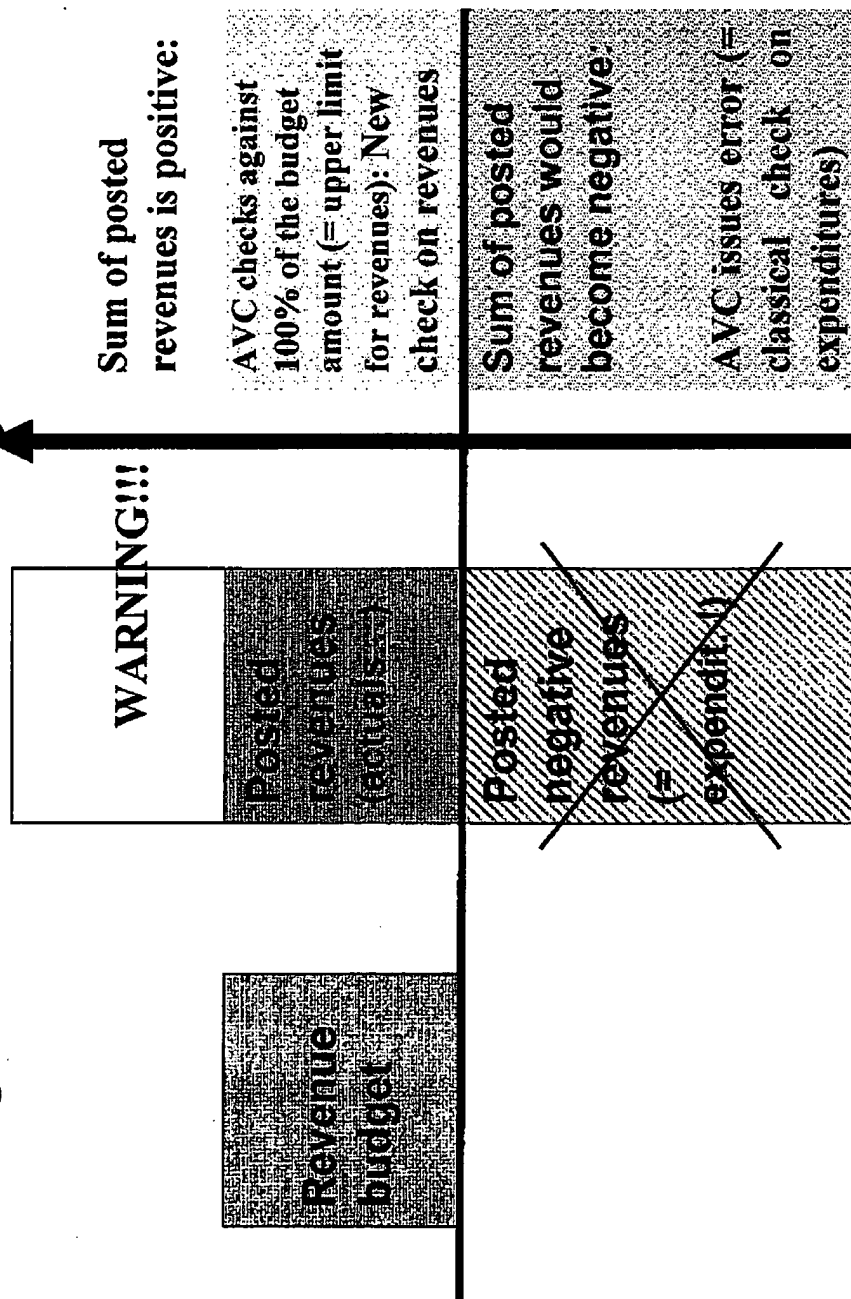
THE BEST-RUN E-BUSINESS RUN [...]

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Availability Control on Revenues

AVC on revenues: *enhanced view* (II)

☐ Example: error when checking expenditures and warning, if revenues > revenue budget

Sum of posted revenues is positive:

AVC checks against 100% of the budget amount (= upper limit for revenues): New check on revenues

Sum of posted revenues would become negative:

AVC issues error (= classical check on expenditures)

WARNING!!!

Posted revenues (actuals...)

Posted negative revenues (= expenditu...)

Revenue budget

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Availability Control on Revenues

Overview of the design

☐ Enhancement of the AVC check logic: *two ceiling types* that are simultaneously available for each control ledger ('single ledger approach')

☐ Consequences:

☐ Tolerance profiles with separate tolerances for *'ceiling for expenditures'* and *'ceiling for revenues'*

☐ Enhancement of the enqueue logic for shared locks

☐ New treatment and data storage of preposted budget values

→ reconstruct AVC necessary after upgrade

→ changes for AVC reporting

→ New DB field, but no XPRA necessary !

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Availability Control on Revenues

Why 'single ledger approach'?

☐ **Advantages:**

- Ceiling types are easily customizable via tolerance profiles and their assignment to control objects

- AVC reporting on (preposted) budget data becomes more transparent

☐ **Alternative solution: separate control ledgers with inversed check logic** (*only for ceiling for revenues*)

☐ *But:*

- The number of control ledger has to be doubled for this solution, if customers decide to use checks on revenues

- Separate check ledgers basically contain data with the same amounts (*only the sign is inversed*)

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Availability Control on Revenues
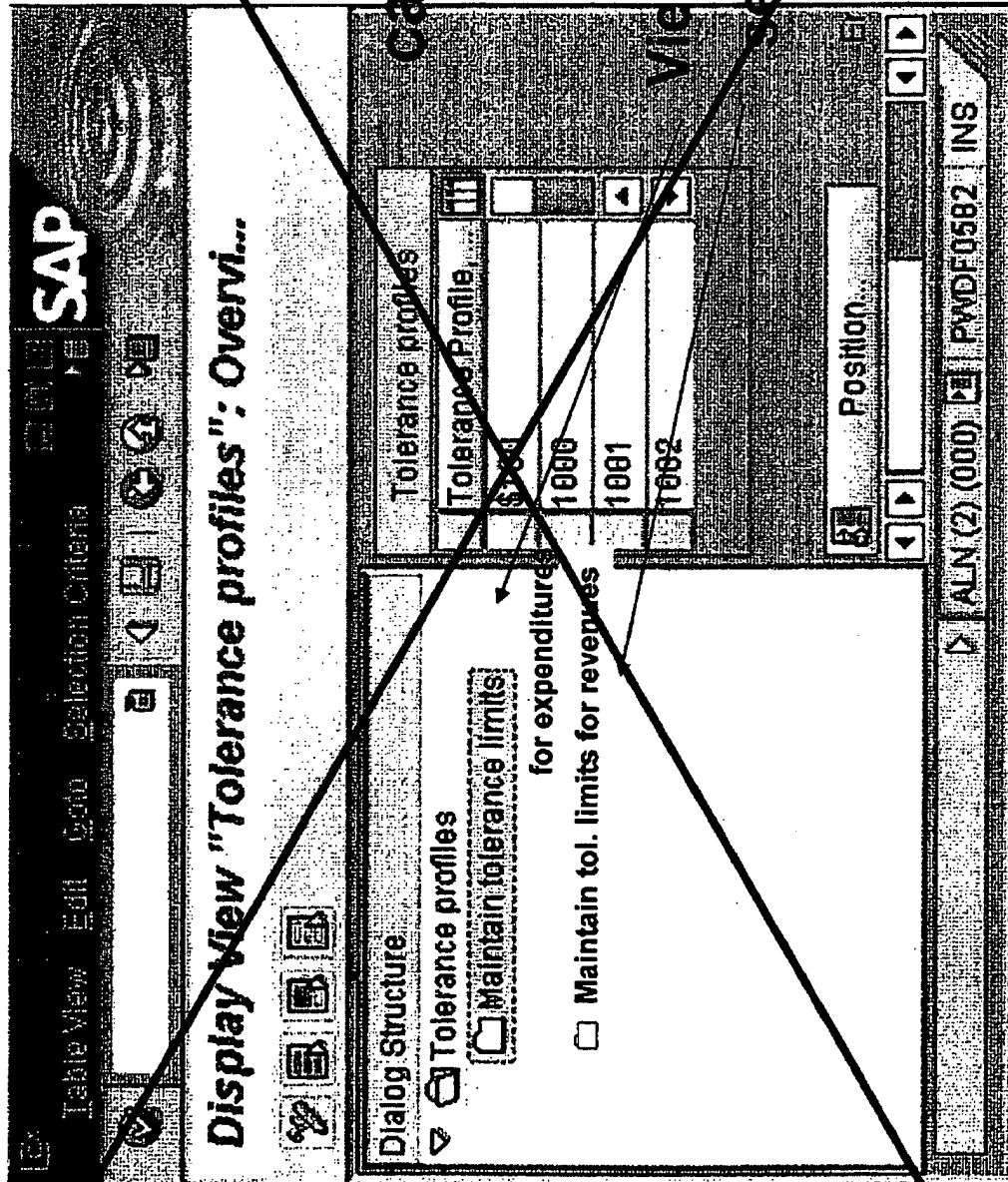
New Customizing of tolerance profiles (I)

☐ New key field Ceiling Type for table BUAVCTOLASS that allows for distinguishing between ceilings for expenditures and for revenues.

☐ Enhancement of the view-cluster for maintaining tolerance profiles: *separate view for ceiling for revenues?* No, better no separate maintenance. But separate view-cluster required for applications that do not like to use this new ceiling type.

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Availability Control on Revenues

New Customizing of tolerance profiles (II)

Cancelled

View-cluster with separate views

Display View "Tolerance profiles": Overvi...

Dialog Structure:
Tolerance profiles
☐ Maintain tolerance limits
for expenditures
☐ Maintain tol. limits for revenues

Tolerance profiles

Tolerance Profile

1000
1001
1002

Position...

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Availability Control on Revenues

New Customizing of tolerance profiles (III)

Display View *"Maintain tolerance limits": Overview*

Dialog Structure
▷ ☐ Tolerance profiles
    ☐ Maintain tolerance

Tolerance profile   1002   Special/general formats

Maintain tolerance limits

Activ.	Text		Ceiling Type	O...	Usage rate...	Inactive	Message Type of
++	All Groups		For expendit.	01	0,00	☐	Information
++	All Groups		For expendit.	02	100,00	☐	Warning

Position...

View with additional key field

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Availability Control on Revenues

Activation of checks on revenues (I)

☐ In principle, the use (or the deactivation) of the ceiling type "revenues" (or also "expenditures") is always possible via the assignment of special tolerance profiles per control object. OK

☐ *But:* Definition of a derivation strategy is needed, which exploits the commitment item category of the control object. OK

☐ *And:* Default settings required, if the tolerance profile does not provide any tolerance limits (*for none of the two ceiling types*):

- *Proposal:* Error for usage rates > 0% for checks on expenditures AND also for checks on revenues (?!?)

No !

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Availability Control on Revenues

Activation of checks on revenues (II)

- ☐ *New idea*: Separately activate checks on revenues in the view V_FMAVCLDGRACT '*Maintain activation status for AVC ledger*':
  → 2 additional attributes:
  - Checks on expenditures (default = checks on all commitment items)
  - Checks on revenues (default = no checks)

- ☐ For each new attribute (up to) four different values are offered: *no checks,o nly checks on expenditure items (= control objects with commitment item of category '3'), only checks on revenue items, checks on all commitment items* (including value SPACE)

- ☐ In any case, all the posting and budget data should be updated to the control ledger, if set active.

cancelled

Availability Control on Revenues

Activation of checks on revenues (III)

Display View "Maintain activation status for availability ledger, ...

Table View   Edit   Goto   Selection Criteria   Utilities   System   Help

cancelled

IS01 FM Area Thomas 8...

FM IDEA

Maintain activation status for availability ledger, FM

Ava.	Ledger name	Fro.	Activation status of...
9H	FM PB availability control	2001	Ledger not acti...
9H	FM PB availability control	2002	Active with us...

Check on expenditures	Check on revenues
On all commitment items	No checks
On all commitment items	Only on rev. items

Perhaps restriction to on all cmmt
items or only on expend items

Position

150% 10H   ALN (1) (000)   PWDF0582   INB

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Availability Control on Revenues

New handling of shared locks

□ For ceiling type "expenditures", only amounts that reduce the available amount are considered for shared locks in order to reserve new consumptions against concurrent users.

□ For ceiling type "revenues", the amounts with opposite signs have to be considered.

□ → From now on, all amounts <> 0 have to be considered for enqueuing.

□ Uncritical enhancement of ABAP code and of AVC lock objects

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Availability Control on Revenues

Enhancement of message handling

☐ In order to clarify, which checking type (or scope) resulted in an AVC message, a new set of messages should be created.

☐ Messages from both checking types are treated separately and in an independent manner.

☐ Uncritical enhancement of ABAP code...

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Availability Control on Revenues

Treatment of preposted budget values (I)

☐ For ceiling type "expenditures" (= classical AVC), only preposted budget values that reduce the available amount are considered as relevant for AVC in order to allow for UNDOing preposted documents in any case.

☐ For ceiling type "revenues", preposted budget values with opposite sign have to be considered.

☐ → From now on, all preposted budget values have to be considered as relevant for AVC.

☐ → AVC DB data must also allow to distinguish between 'posted' an d 'preposted-reducing' and 'preposted-increasing'.

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Availability Control On Revenues

Treatment of preposted budget values (II)

- ~~Proposal: Use of the field ALLOCTYPE —> two additional values (e.g. PRES and PEAR).~~

Better use a new DB field (WFSTATE) for that

- Consequences for reporting: new 'key figures' necessary for AVC data:

  - Only posted AVC data

  - AVC data including preposted data for ceiling type "expenditures"

  - AVC data including preposted data for ceiling type "revenues"

- Consequences for customers, who upgrade to EA-PS 2.0: They have to run the 'Reconstruct AVC ledger' program after the upgrade, only if they like to use the new ceiling type.

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Exhibit 15

\\pw4f0626\infocenter\protected\2002\11\28\4cfa87d89197e7438e5fbc59e5a222d5.ppt

Document   Edit   Goto   Team Management   Help on DMS   System   Help

DMS: Display Availability Control on Revenues

On/Off | New Document | Mass Checkin | Document Types | Copy

Attribs | File | Relationships | Document Bundle | Authorizations

Title   Availability Control on Revenues   0 Key Words   Language EN

Document Type

Document Type   Development   Design Paper

Reviewed PPT slides of the Design review

Organizational Assignment

Created By	Schaub, Thomas
Changed By	Schaub, Thomas
Author	Schaub, Thomas
Person Resp.	Schaub, Thomas
Project	Availability Control

Time Data

Created On	28.11.2002
Changed On	08.04.2005
Key Date	28.11.2002
Reten. Per.	18 Month(s)
Expiry	28.05.2004

Exhibit   C

Grace, Gregory

From: Schnoerer, Horst [horst.schnoerer@sap.com]

Sent: Thursday, December 12, 2002 3:56 AM

To: Godeby, Frank; Lindberg, Gloria; Hollberg, Juergen; Trohorsch, Claudia

Cc: Schaub, Thomas

Subject: RE: Review AVC on Revenues

Hallo Kollegen,
wenn außer mir noch jemand an diesm Meeting teilnehmen will, schlage ich vor, dass wir in den Raum CE.19 gehen. Ansonsten werde ich von meinem Platz aus teilnehmen. Gebt mir bitte Bescheid, wenn Ihr auch teilnehmt.

Viele Grüße
Horst

-----Original Appointment-----
From: Schaub, Thomas
Sent: Donnerstag, 12. Dezember 2002 09:25
To: Salinas, Marielle; Schnoerer, Horst; Godeby, Frank; Lindberg, Gloria; Hollberg, Juergen; Bourne, Herve
Cc: Trohorsch, Claudia; Seaton, Robyn; Schaefer, Andreas; Darnell, Geoffrey; Kobeh, Gerardo
Subject: Updated: Review AVC on Revenues
When: Donnerstag, 12. Dezember 2002 16:00-18:00 (GMT+01:00) Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna.
Where: Sophia, Walldorf, Washington

UPDATE: updated slides & phone conference & meeting room in Sophia

Hi all,
I have updated the slides for our meeting.

Hello colleagues in Washington,

if you like to attend the meeting (it seems that none of you has accepted yet), then it would be good, if one of you could arrange a meeting place for a phone conference.

Hello colleagues in Sophia,

we will meet in room MENTON (2nd); the phone number is: **+33 4 92 28 64 60.**

Hello colleagues in Walldorf,

I still hope that Washington will join the meeting. If not, then please call us in Sophia.

B/R,
Thomas
****

8/28/2008

Hello colleagues,

I would like to invite you to a review on the design of availability control on revenues.

Please have a look at the following documents:

* PPT slides (first shot, but good for an overview):
  << File: PPT AVC on Revenues.sap >>
* Design Paper:
  << File: Design Doc AVC on Revenues.sap >>

You can open the links, if you have established a SSO user for system PMP.

Best regards,
Thomas

P.S. I'd have preferred an earlier date, but you are too busy in December...

8/28/2008

$Exhibit \; D$

Grace, Gregory

From:	Schaub, Thomas [thomas.schaub@sap.com]
Sent:	Thursday, January 23, 2003 12:01 PM
To:	Gulias, Juan; Kobeh, Gerardo
Subject:	FW: Enhancement of AVC: check on revenues
Attachments:	Implementation_AVC_on_Revenues.doc

Hi Jerry and Juan,

I forgot to mention that you might also change the method MESSAGE_GIVE_DETERMINE_MSG in your application-specific LEDGER class in order to be able to distinguish messages coming from the new 'revenue' checks from AVC messages due to the 'classical' checks.

Here is the documentation of the implementation I did in ALN and MJE:
<<Implementation_AVC_on_Revenues.doc>>
Cheers,
Thomas

-----Original Message-----
From: Schaub, Thomas
Sent: Thursday, January 16, 2003 2:28 PM
To: Gulias, Juan; Kobeh, Gerardo
Subject: Enhancement of AVC: check on revenues

Hi Juan and Jerry,

I have finished the implementation of the new *AVC checks on revenues* for FM in ALN.

If you like to use this new development for GM, then you should add the field WFSTATE_9 in your FI-SL tables GMAVC* (see how I did it for FMAVCT and FMAVCC - don't forget to enhance the table index of the objects table...) and enhance the two methods DATA_BASE_READ and ENTRY_BUFFER_WRITE of your class CL_GMAVC_LEDGER accordingly.

As you will see, there is not much work to do for you. I already enhanced your **lock object E_EGMAVCT** and some of your coding using this lock object. I hope that the changes I did are fine for you!

The activation of this new check mode (–> called: ceiling type) is done in the Customizing of the tolerance profiles. I created a new view cluster, which offers this possibility:

VC_BUAVCTOLLIM_CT (ct like ceiling types)

I propose to use this one instead of VC_BUAVCTOLLIM, if you like to use checks on revenues in GM.

However, there remains some conceptual problem: Do we now need a distinction between tolerance profiles used in FM and in GM? Currently all tolerance profiles can be used at the same time in both applications! But imagine that one application (like GM?) does not use checks on revenues, but uses some tolerance profile from FM, where settings are entered for ceiling type 'revenues'!

Wouldn't it be better to introduce some new key field APPLIC (with values FM and GM) in the key of the tolerance profiles? Before I write some small design paper (we will require an XPRA for that!), I will ask for your

8/28/2008

feedback and advice. This new field (data element already exists: BUAVC_APPLIC) would appear in all generic Customizing tables of class FMAVC_E in order to distinguish between different applications:

BUAVCLDGR: as attribute to distinguish control ledgers of different AVC applications
BUAVCSRC: as attribute to distinguish AVC data sources belonging to different applications

BUAVCTRPO and BUAVCTOLASS: in the key for separating tolerance profiles per application
BUAVCACTGRP: in the key for separating activity groups per application (--> use in tolerance profiles)
BUAVCEVENT: in the key for separating AVC events (--> also only for use in tolerance profiles)

Should we arrange some small phone conference on that? Please let me know.

Best regards,
Thomas

Dr. Thomas M. Schaub

Development IBU Public Services

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Exhibit E

Implementation of Availability Control on Revenues

Releases: EA-PS 2.0 (ALN) and EA-PS 1.10 Ext. for JFMIP (MJE)

Last updated: 17.01.2003

Overview of the implementation

Principle

For controlling revenues (with tolerances of the new ceiling type 'incoming amounts') in principle only the sign of the consumable budget values and of the budget consumptions has to be inversed for the availability checks. However, also the treatment of preposted documents and of data of concurrent users (so-called foreign enqueue data) changes for checks on 'incoming amounts'.

Customizing

A new key field CEILTYPE is introduced in the Customizing of AVC tolerance profiles to distinguish between tolerances for classical AVC (ceiling type 'outgoing amounts') and for the new AVC configuration to control revenues (ceiling type 'incoming amounts').

WFSTATE

AVC has to separately store preposted values for the two ceiling types: for the classical checks only posted and reserved (preposted) data is relevant and for checks on 'incoming amouts' posted and earmarked (preposted) data is relevant. For this purpose a new DB field WFSTATE has to be created for the AVC totals table (table group FMAVC in FM). This change of the DB representation of AVC data also requires some changes for the AVC reporting.

The new field WFSTATE must also be added to the enqueue object (E_EFMAVCT in FM).

Enqueue handling

Apart from the above-mentioned new field WFSTATE in the enqueue object, now all values must be sent to the enqueue server. The distinction on the sign of the amounts is only done for foreign enqueue values (= enqueue data of concurrent users) after reading them from the enqueue server in the CHECK process event. AVC must keep positive and negative amounts in separate internal tables for the availability checks in order to use them separately for checks on 'outgoing amounts' and on 'incoming amounts'.

Message handling

For distinguishing between the check results coming from different ceiling types, a new set of messages has to be created, which mention in the long text that they arise from AVC checks on 'incoming amounts'.

Reporting

The function modules for selecting or calculating AVC data have to be changed. In addition, the AVC data reports have to be changed, too, in order to display control object data in the context of the checks on 'incoming amounts'.

1

Changed or new objects

Data elements and domains

The data elements BUAVC_CEILTYPE (new domain BUAVC_CEILTYPE) and BUAVC_WFSTATE (taking the existing domain BUKU_WFSTATE) have been created.

Structures

- The new structure BUAVC_S_AVC_CHECK_RESULT has been created, which contains the complete list of fields obtained as result of some availability check. This structure appears in many method interfaces as parameter.
- The structure BUAVC_S_TOLPROF_SET has been enhanced by the new field CEILTYPE. This structure is used for reading the Customizing of tolerance profiles in the function module BUAVC_GET_TOLERANCE_LIMITS.
- The structure FMAVCT_KEY received a new field WFSTATE. This structure is used for the definition of the enqueue (or lock) object E_EFMAVCT in FM.
- FMAVC_S_ACO_ANNUAL_TOTALS (only ALN): instead of the two fields CONSUMABLE_BUDGET and CONSUMED_AMOUNT the six new fields CONSUMABLE_BDGT_POSTED, CONSUMABLE_BDGT_RESERVED, CONSUMABLE_BDGT_EARMARKED, CONSUMED_AMOUNT_POSTED, CONSUMED_AMOUNT_RESERVED, and CONSUMED_AMOUNT_EARMARKED were created to separate AVC data in FM from posted and preposted (reserved or earmarked) documents. Therefore the function modules FMAVC_SELECT_ANNUAL_TOTALS_ACO (both in ALN and slightly different in MJE) and FMAVC_SELECT_MULTAN_TOTALS_ACO (only ALN) had to be changed. Also the include RFFMAVC_CTRLDATA_0100_AVC calling the latter function module had to be modified (this include is used for both AVC data reports).
- FMAVC_S_BO_ANNUAL_TOTALS (only ALN): this structure was changed exactly as the previous one. Accordingly the function module FMAVC_CALC_ANNUAL_CONTRIB_BO (only ALN) using this structure and the same include RFFMAVC_CTRLDATA_0100_AVC (only ALN) calling this function had to be changed, too.

DB tables

- The customizing table BUAVCTOLASS received a new key field CEILTYPE. No XPRA is necessary, because the initial value (default) corresponds to the classical AVC configuration for controlling 'outgoing amounts'.
- The AVC totals table FMAVCT and the objects table FMAVCC received the new attribute WFSTATE_9. For table FMAVCC the table index 1 had to be enhanced, too, and finally the FI-SL XPRA RGZZGLUX had to be run in order to regenerate FI-SL structures and ABAP code. If a customer likes to use the new ceiling type 'incoming amounts', then he must run the reconstruct AVC program. There is no need for a reconstruct or for an XPRA, if existing Enterprise 1.10

2

customers does not use the new development – the initial value (SPACE) of the WFSTATE field is always interpreted as 'posted' data.

Views and view-clusters

The view V_BUAVCTOLASS has been modified in order to only display and treat tolerance profiles with values of ceiling type 'outgoing amounts'. The view V_BUAVCTOLASS_CT has been created, which allows the maintenance of both ceiling types. This view is used in the new view-cluster VC_BUAVCTOLLIM_CT, which is used for the IMG activity 'Edit tolerance profiles' in FM (only ALN; in MJE the existing view VC_BUAVCTOLLIM has been enhanced to treat both ceiling types – it was not possible in MJE to create maintenance modules in SE54 for a new view, which already exists as original in ALN).

Lock objects

The lock object E_EFMAVCT obtained a new field WFSTATE. The ABAP code of the following objects has to be modified accordingly: function modules FMAVC_RELEASE_GLOBAL_ENQUEUE and FMAVC_SET_GLOBAL_ENQUEUE and methods ENQUEUE_VALUES_READ, VALUES_DEQUEUE and VALUES_ENQUEUE of class CL_FMAVC_LEDGER.

Changed function modules

- BUAVC_GET_TOLERANCE_LIMITS: read new field CEILTYPE in DB table BUAVCTOLASS. Currently if there is no entry found for ceiling type 'outgoing amounts', then an entry with Error for usage rate % is returned. This means that a customer has to explicitly switch off checks on 'outgoing amounts' (as before) and to explicitly switch on checks on 'incoming amounts'.
- FMAVC_RELEASE_GLOBAL_ENQUEUE: use new field WFSTATE of the lock object
- FMAVC_SET_GLOBAL_ENQUEUE: use new field WFSTATE of the lock object
- FMAVC_SELECT_ANNUAL_TOTALS_ACO (different in ALN and MJE): treat the new field WFSTATE of AVC totals
- FMAVC_SELECT_MULTAN_TOTALS_ACO (only ALN)
- FMAVC_CALC_ANNUAL_CONTRIB_BO (only ALN)

Class CL_BUAVC_LEDGER and its sub-classes

The internal type CATEGORY of the super class received a new field: WFSTATE. The following methods of the super class were modified:

- AVAILABILITY_CHECK_PERFORM: new interface (parameters) and enhanced standard implementation for separating data for the two different ceiling types. The method VALUES_CHECK is called twice, for each ceiling type separately.
- AVC_ACTION_EVALUATE: new interface (parameters) and enhanced standard implementation. For each ceiling type, messages and AVC events are treated separately.

3

- CATEGORY_FILL: pre-set the field CATEGORY-WFSTATE with 'Posted' and now use a constant for the single field value CATEGORY-ALLOCTYPE.
- CHECK: no change to the flow logic, only the interface of some methods called here had to be changed.
- ENQUEUE_VALUES_READ: new interface (exporting parameters) – no standard implementation.
- MESSAGE_GIVE: new interface (parameter i_ceiltype) and slight change of the standard implementation
- NEW_ENQUEUE_DATA_PREPARE: new interface (parameters) and enhancement of the standard implementation: new shared locks are only created, if there is no error for both ceiling types. In addition, new shared locks from the present checks and from already posted (and not COMMITed) documents are not COLLECTed together anymore. These values are separately enqueued to allow for independent treatment of the two kinds of documents (already posted data is rather likely to be COMMITed, but check values from the current document may also be simply rejected – may be that the user only pressed the CHECK button!
- PARKED_VALUES_HANDLE: no preposted data is rejected anymore – according to the sign of the changes to the available amount, the WFSTATE value 'Reserved' or 'Earmarked' is selected. Currently this decision is exclusively based on annual amounts, which means that the selection of the WFSTATE values is independent on the checking horizon (may be that we have to change this...).
- VALUES_CHECK: new interface (parameters) and enhancement of the standard implementation to cover different ceiling types. For ceiling type 'incoming amounts' the sign of all amounts is inversed before doing the real check.

The following methods of the FM-specific sub-class CL_FMAVC_LEDGER have been modified, too:
- DATA_BASE_READ: select AVC totals data for all WFSTATE values
- ENQUEUE_VALUES_READ: distinguish enqueue data from concurrent users (foreign locks) according to the sign and store them separately in two different internal tables (one for each ceiling type).
- ENTRY_BUFFER_WRITE: store the new field CATEGORY-WFSTATE in the corresponding DB field.
- VALUES_DEQUEUE: treat the new field WFSTATE, when releasing locks
- VALUES_ENQUEUE: treat the new field WFSTATE, when setting locks
- MESSAGE_GIVE_DETERMINE_MSG: use other message numbers for ceiling type 'incoming amounts'.

Messages

The messages 051 through 069 (FMAVC) have been created for messages from ceiling type 'incoming amounts' and the messages 001 through 019 have been enhanced to indicate that ceiling type 'outgoing amounts' did the job.

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Reports and includes

- IBUAVCCON: new constants for ceiling type and workflow status
- RFBUAVC_VIEWS_FORM_POOL: enhanced check on the order of usage rates in the tolerance profile Customizing
- RFFMAVC_CTRLDATA_0100_AVC (only ALN): ...

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